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INSTRUCTIONS

FOR

TYPE 210-A SUPER-SONIC OSCILLATOR

BOONTON RADIO CORPORATION

BOONTON, NEW JERSEY

U. S. A.

MP MASTER

MA24356

INSTRUCTIONS

FOR

TYPE 210-A SUPER-SONIC OSCILLATOR

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OPERATING INSTRUCTIONS

FOR THE

TYPE 210-A SUPER-SONIC OSCILLATOR

JUNE 1942

GENERAL:

The Type 210-A Super-Sonic Oscillator has been designed primarily as an accessory unit to operate with the Type 160-A Q-Meter between 1000 cycles and 50 kilocycles, and as a general purpose oscillator providing a source of signal voltage over a frequency range of 1000 cycles to 100 kilocycles.

The design of the unit incorporates a resistance capacitance oscillator followed by an output amplifier with cathode degeneration. The use of these features insures good wave form and a high order of stability.

UNPACKING:

Before operating the Type 210-A Super-Sonic Oscillator, a careful inspection should be made to make certain that the tubes are seated in their sockets, and the two lamps on the left of the chassis are firmly screwed in their sockets.

POWER SUPPLY:

The live voltage and frequency for which the Super-Sonic Oscillator is designed is indicated on the nameplate located on top of the cover. No other voltage or frequency should be used.

A switch is provided on the front panel for turning the Super-Sonic Oscillator on or off. In the OFF position, this switch disconnects one side of the power line from the transformer which supplies all power to the instrument.

PRECAUTIONS:

If it is found necessary to ground the Super-Sonic Oscillator, a ground connection may be made to the bottom binding post of the 5000 ohm output.

Caution: Be certain that any tubes replaced are in the correct sockets. Failure to do this may result in damage to the instrument or tubes.

Failure to operate properly is generally due to defective tubes. The Super-Sonic Oscillator is shipped with a complete complement of tested tubes which have operated correctly in the instrument before shipment. If, however, the instrument fails to operate

properly the tubes should be replaced one-by-one with spare tubes of the correct type to locate any tube damaged during shipment.

DESCRIPTION

TUBES:

The following tubes are used in the Super-Sonic Oscillator:

1	-	Oscillator tube	6 SK 7
1	-	Phase Inverter tube	6 F 6
1	-	Amplifier tube	6 F 6
1	-	Rectifier tube	5 W 4
2	-	Resistor lamps	S-6, 120V, 6 watt
1	-	Pilot lamp	Mazda #47

All All the tubes and resistor lamps are accessible by lifting the hinged cover. Access to the pilot lamp is obtained by removing the panel screws and removing the panel and attached chassis from the cabinet.

CONTROLS:

All the controls required for setting the frequency and adjusting the output level are located on the front panel. These controls are as follows:

Frequency: The frequency range is covered in two bands, the higher rage being a multiple of ten times the lower. The selection of the desired range is accomplished by turni the switch located to the left of the Frequency Dial to either the X1 or X10 position. With the switch in the X1 position, the frequency is read directly on the Dial. With the switch in the X10 position, the Dial reading is multiplied by ten.

Output: The output level is controlled by the knob to the right of the Frequency Dial. Turning this knob in a clockwise direction increases the output. This control varies the output continuously from zero to maximum.

OUTPUT CIRCUITS:

Two outputs are provided, one a low impedance circuit which is brought out to a phone jack located on the front panel. The second output of 5000 ohms impedance terminates at a pair of binding posts on

the front panel. The sleeve of the phone jack impedance output is grounded, as well as the lower binding post of the 5000 ohm output.

The low impedance output matches the thermocouple circuit of the Type 160-A Q-Meter and may be connected directly by means of the plug terminated connecting cable supplied with the Q-Meter. As a precautionary measure, the output control of the Type 210-A Super-Sonic Oscillator should be turned to the zero position before connecting the Q-Meter, when turning the Type 210-A ON or OFF, or switching bands. This is necessary because there is a maximum stabilization period of two seconds when the output of the Type 210-A will overload the thermocouple of the Q-Meter.

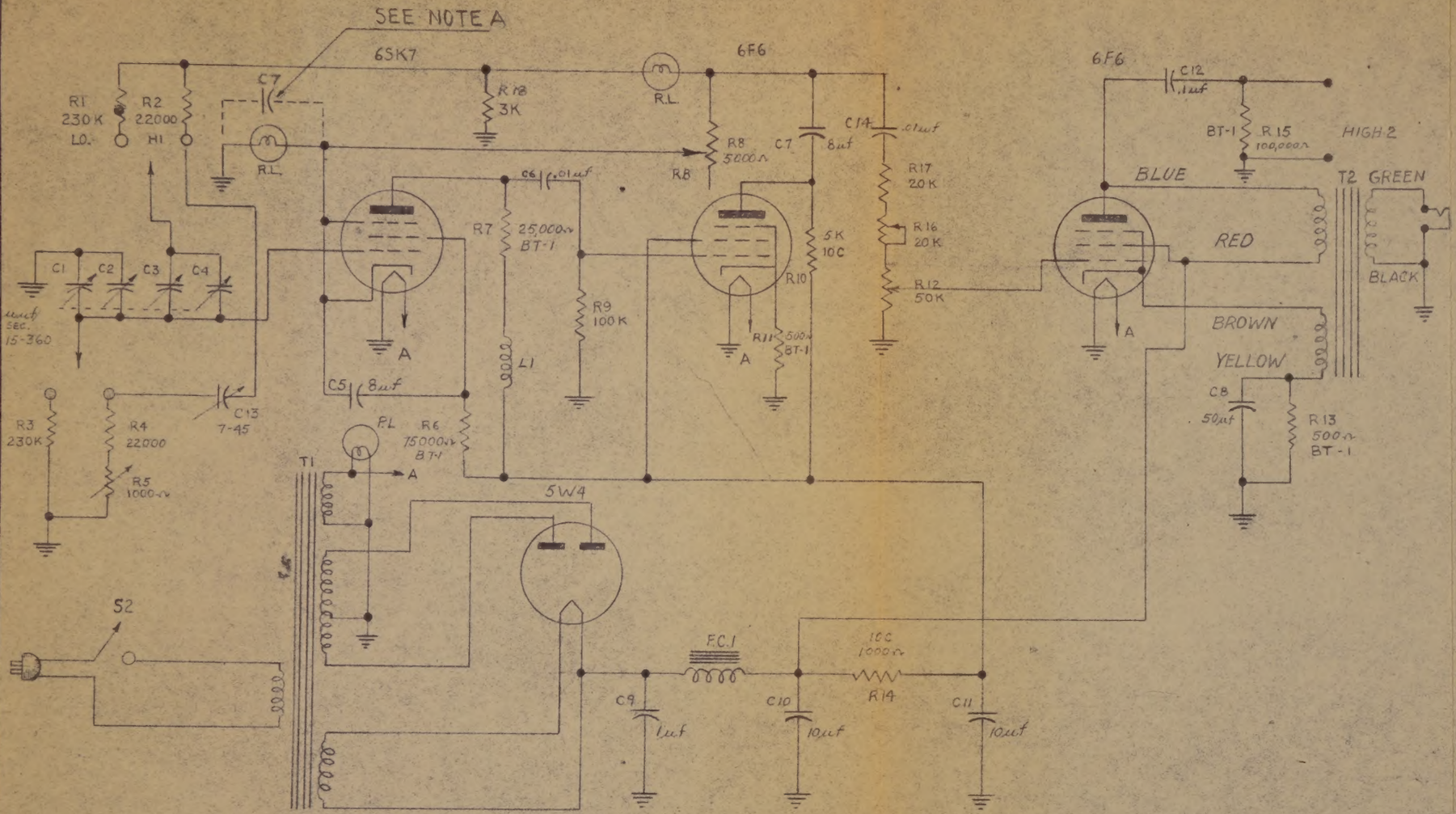
Instructions concerning the use of a Q-Meter with an external oscillator are given in the Q-Meter Insturction Book.

The high impedance output has been provided so that the instrument may be used as a general purpose oscillator.

OUTPUT LEVEL:

The output level available at low impedance output jack is sufficient to operate the Type 160-A Q-Meter.

The high impedance output will furnish a maximum of about 50 volts across an external 5000 ohm resistive load.



NOTE: 150 TO 250 μμf SOMETIMES SHUNTED ACROSS LAMP FOR GOOD F DIAL CALIBRATION.

SUB	ITEM	CHANGE	DATE	APP.

LIMITS: DECIMAL ± .002 FRACTIONAL ± 1/64

SCHEMATIC

MAT:

FIN:

DRAWN BY H.R.V.	USED ON
DATE 8-11-44	
CHECKED BY [illegible]	
DATE 8/12/44	
APPR. BY [illegible]	
DATE 8/12/44	210-A

BOONTON RADIO CORP.
BOONTON, N. J.

SCALE 21700

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